

Week 5 Lab Instructions

Integumentary System

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References:

1. Saladin *Anatomy & Physiology: The Unity of Form and Function*

Part A

Step 1: Read the Entire Lab Packet

- 1.1 – Read through the laboratory packet – SEE ATTACHED SHEETS

Part A

Step 2: Come to the Lab with Proper PPE

BACKGROUND:

The integument contains multiple layers (epidermis, dermis, and hypodermis) and various cell types in each layer. The outer layer contains five different cell types: stratified squamous epithelium, keratinocytes, melanocytes, Langerhans cells, and Merkel cells. The middle layer of the integument is referred to as the dermis, which is composed of connective and vascular tissue. The dermis and epidermis form the cutaneous membrane. Beneath the dermis lies the subcutaneous or hypodermal layer, which consists of loose connective tissue, specifically adipose tissue.

PURPOSE:

In this lab, you will be asked to observe prepared slides of the epithelium and dermis of human skin. You will also prepare a wet-mount of cheek cells and observe them under the microscope. Finally, you will demonstrate your knowledge by completing the Lab Worksheet.

MATERIALS:

- A copy of the lab report for each member of your group
- A writing utensil
- Prepared slides of epithelium, connective or vascular tissue
- Crystal Violet stain
- DI water
- Glass slides and cover slips

- Microscope
- Immersion Oil
- Lens wipes
- Toothpicks

PREPARATION:

- Read your lab in its entirety before coming to class.
- Clear your workstation of all unnecessary materials. Book bags and or purses should be hung on hooks or places at the front of class. Make sure all other unnecessary materials (coats, drink containers, unused textbooks, etc.) are all stored and placed in a safe area out of the way.
- Obtain all materials listed above.
- Familiarize yourself with your lab materials.
- Follow the directions of the packet and as presented by your instructor.
- Students must wear safety eyewear, gloves and lab coat at all times.
- Used glass slides and cover slips are discarded in waste glass container
- Be aware of the instructions for documenting your lab work. You will be performing the lab in a group but will each be responsible for recording your own data and creating your own lab report.

ACTIVITY: Part A - Observations of Epithelium

We will observe cells in the most superficial layer of integument in this activity

Method:

1. Obtain the preserved slide of epithelial cells. Your instructor may have one or more slides for you to observe.
2. Use Appendix A to follow instructions on using a Microscope.
3. Observe the slide under 10X, 40X and then using 100X objective lenses, following the directions from your instructor.

Note to Students: Don't forget to use oil with 100X lens only. After completing the observation, clean the oil immersion lens with lens paper to remove oil. Be careful to not contaminate other objective lenses (4X, 10X, 40X) with oil.

4. Record and describe your observations made using a low-power magnification (10x) and high-power magnification as directed by your instructor (40x or 100x). Make sure to note as many details as possible, and include the magnification used.